

THE RANTOP

OCTOBER

1985



THE GREATER CLEVELAND TS USER GROUP :

WEST SIDE GROUP MEETS AT GETHSEMANE LUTHERAN CHURCH
14560 MADISON AVE. LAKEWOOD, OHIO 7:30 P.M.
EVERY THIRD FRIDAY EACH MONTH (EXCEPT DECEMBER)
CONTACT: DICK SIEG (216) 433-4387

EAST SIDE GROUP MEETS AT THE EUCLID SQUARE MALL
IN THE EUCLIDIAN ROOM 7:30 P.M.
EVERY FIRST FRIDAY EACH MONTH
CONTACT: MAX SCHOENFELD (216) 371-1096

A short note to our friends from other newsletters and magazines. You are welcome to use any of our material, news, adds, or programs if YOU: (1) Tell where it came from (RANTOP Cleveland, Ohio) and (2) The author's name that wrote the article. We would appreciate it if you would send us a copy of the newsletter that it appeared in! Unless otherwise notified we will do the same.

THANK YOU FOR YOUR INTEREST IN OUR NEWSLETTER !

T/S RESOURCES

news/rumors

hardware software literature

Oct. 1985 by Andy Kosiorek

SINCLAIR/MAXWELL deal off.

The Maxwell deal to buy out Sinclair fell thru. Sinclair Research is now being supported by a group of their creditors, including Dixons, a large UK retailer, who purchased about £10 million of Clives inventory. Rumors say that part of the deal included a delay in the release of the 128K Spectrum, code named the "Derby."

2068 - 64 COLUMN MODE

Zebra is advertising a 64 Col operating system cartridge for the 2068, at \$29.95. It will support Print, List, Copy and program edit commands, and 64 Col. printer output.

TAPE MAINTENANCE

Speedy Soft of England is selling a "Operation Caretaker" kit for £9.95. It includes a Head cleaner/demagnetizer tape, and a Azimuth alignment check tape, which uses a Screen display to indicate optimum head adjustment.

My compliments to Cedric R. Bastiaans for his excellent series on Magnetic Recording Tape, in the L.I.S.T. newsletter

NEW PRINTER

British mags. are advertising a new economy printer, the Seikosha GP50S. A 48 col. dot matrix unit that use 5" rolls or paper sheets. It comes with a Spectrum/ZX81 interface, at £59.

DISK DRIVES.

My Portuguese Disk Drive arrived. It performs as described in the reviews. The DOS is quite extensive. I'm still learning its techniques. Bob Dyle of English Micro Connection did a excellent job in writing a American version of the instruction manual. The 3" Discs are actually disc cartridges, self contained in a hard case, very durable. Disks and additional Hitachi Drives are available from vendors in many States. More comments on this next month.

MODEMS

For owners of the Westridge 2050 Modem, I highly recommend Kurt Casby's software enhancement program, "Loader IV."

CLUB NEWS

Oct. 1, 1985

NEWSLETTER

With this issue of the RAMTOP the publishing - distribution dates are adjusted to the 2nd week of the month. We have had find another location for printing this publication. Dick Sieg and Gene Wilson have volunteered to assist in this matter. Gregg Dupuy, who has been doing a excellent job, still continues as Editor, but he needs YOUR contributions.

To keep our expenses, and dues as low as possible, we will try distributing local copies of the newsletter at the West Side meeting. This, we hope will reduce our postage costs 25 to 35%. If you can not make it to the meeting, it will be mailed to you promptly after the meeting. Out of town copies will be mailed earlier.

DECEMBER MEETING

There will be no December WEST SIDE meeting. ALL WEST SIDERS ARE WELCOME TO ATTEND THE EAST SIDE MEETING, FRI. DEC. 6th, for a holiday celebration.

Andy K. - Pres.

ALTERNATIVE MID\$

I have written two data-file type programs for my ZX Spectrum for home use. However, my programs lack a fast and efficient string search routine. Could you suggest a simple routine for the Spectrum to search a long string for a short string as in the BBC's:

100 FOR J=1 TO LEN (LONGS)

- LEN (SHORTS)+1

110 IF SHORTS=MIDS(LONGS,J,

LEN(SHORTS)) THEN 200

120 NEXT J

I have tried to adapt this very simple yet fast routine, but cannot find an alternative to Mid\$ which the Spectrum does not have.

Kenneth Watson,

Gateshead,

Tyne and Wear.

THE ROUTINE you have given for the BBC commits an unpardonable sin, jumping out of an incomplete loop. Run this on the computer for very long, and the BBC Micro would crash with an out of memory error. Although the ZX machines allow you to jump out of loops with

impunity, it is extremely bad programming practice, as very few other computers are as tolerant.

Putting that aside, it is unfortunate that the Instr\$ command, which searches through one string for the occurrence of another, and returns a number which is the starting position of the second string - or zero if it is not found - is not available on the Spectrum. This would solve your problem very quickly.

All the standard string-handling commands - Left\$, Mid\$, Right\$ - can be emulated in ZX Basic. The following program, although not brilliantly efficient, should do the job for you.

10 A=LEN(LONGS):B=LEN (SHORTS)

20 J=1

30 IF LONGS(J TO B-1)=SHORTS THEN 60

40 IF J<A THEN J=J+1:GOTO 30

50 PRINT "NOT FOUND":GOTO 70

60 PRINT "STRING FOUND, STARTING AT ELEMENT":J

Note how lines 20 and 40 do not create a loop which will be prematurely exited.

Hi all! As you can see, the RANTOP has changed a bit. I hope you are happy with it. I must apologize for it being late but there were circumstances that caused it. Many of you probably knew that I worked at Toledo Scale Co. This was where I was getting the RANTOP copied. The copy quality was excellent! Unfortunately, I was layed off due to slow business. I have since got another job but I don't have access to a copier. This all happened rather without notice so I was caught in the middle. I was also getting a very good price for using the copier. Now we will have to pay more. This is bound to reduce the size but I hope not the content! If you have any ideas on improvements or have access to a copier for CHEAP PLEASE LET ME KNOW!!! Our treasurer, Bob Parish, was able to set up a checking account for our Group, so checks can now be made out to the group name or to the "RANTOP". In the future we will be looking for ways to cut costs. It is very possible that dues will have to be raised to keep us above water!

I will be using more condensed print to save room for your articles and programs! - PLEASE, send your articles, and/or programs in condensed print if you have a large printer or try to keep the articles conscience and to the point. The RANTOP has been and will continue to be a quality publication as long as we have the type of writing that we have had in the past. I hope that you all will bear with me and lend your support in this as I know you will! One other note; PLEASE, if you are sending articles from the 2040 printer, I would appreciate it if you use the TP-10 paper as it prints nice and dark. ALSO if you have any ideas on how to raise money for the group, LET ME KNOW!

As always, PLEASE send your articles to: JAMES G. DuPuy, 6514 Bradley Ave. (DOWN), Parma, OH., 44129.

THANK YOU!!!

Here are the FREE ads for OCTOBER:

FOR SALE: STAR STX 80 PRINTER with 3 rolls of paper. This is a GREAT little printer! It uses thermal paper, but is 8 1/2" wide and prints 80 columns. A well known word processor program is included as well as the software for the Aerco interface. The price: \$85! or \$125 INCLUDING the Aerco interface! Contact AL SPERO at: 946-8950 (work) or 461-7410 (home) or write: 1227 Julius Weil Dr. #207-A, Mayfield Hts., Oh, 44124 He will also include a program for different Fonts but you must have the other interface to use it.

FOR SALE: 2068, 2040, TAXAN 12" RGB/COMPOSITE MONITOR with audio, Thomas Woods Filing Data and misc. software. CALL REV. CARL NELSON for prices and bargaining: 354-3000 (work), 354-9328 (home) If you want to write: St. Pauls Lutheran Church, 250 Bowhall Rd., Painsville, Oh., 44077 (BETTER GRAB AT THIS!!!)

FOR SALE: MICROWAVE ANTENNA CAPABLE OF RECEIVING SHOWTIME. Price: \$100.00 CALL BOB PARISH at 671-6922 for further details.

FOR SALE: MISC. FURNITURE IN GOOD CONDITION. CALL BOB PARISH : 671-6922 for further details.

(2068)



```

20 LET b=1.75
30 LET x0=290: LET y0=150
40 CLS
50 LET r=8/6
60 READ n
90 IF n=0 THEN GO TO 420
100 READ x1,y1
110 LET y1=y1*r
120 FOR p=2 TO n
130 READ x2,y2
140 LET y2=y2*r
150 PLOT x0-x1/b,y0-y1/b: DRAW
x0-x2/b-(x0-x1/b),y0-y2/b-(y0-y1/b)
160 LET x1=x2
170 LET y1=y2
180 NEXT p
190 GO TO 80
210 DATA 38,223,60,180,71,173,6
5,174,63,179,64,180,62,185,62,18
7,60
220 DATA 192,60,194,57,200,57,2
02,55,183,55,182,59,172,58
230 DATA 171,62,165,57,170,50,2
20,31,233,31,245,40,260,60,290,6
7,315,72
240 DATA 345,80,360,87,380,105,
400,127,425,145,452,155,502,164,
450,164
250 DATA 434,162,415,158,395,15
3,362,138,323,132,283,125
270 DATA 16,289,92,250,120,250,
135,260,157,233,163,247,163,240,
165
280 DATA 257,164,256,166,272,15
9,270,153,278,140,280,120,285,12
0
290 DATA 310,120,330,112
310 DATA 11,295,127,303,158,278
,162,288,162,282,163
320 DATA 291,164,283,165,315,16
2,315,157,325,137,323,132
340 DATA 11,238,77,220,87,192,9
9,192,102,195,100
350 DATA 198,102,200,100,203,10
2,205,98,218,95,255,83
370 DATA 3,258,114,245,105,228,
93
380 DATA 3,222,86,215,77,210,65
400 DATA 4,220,42,210,45,215,40
,220,42
410 DATA 0
420 STOP

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Morse Code By Everett Pence

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5 GO TO 2000
8 CLS
9 RESTORE
10 FOR a=1 TO 26
14 PRINT AT 17,0;"Press [M] to
return to menu"
15 PRINT AT 19,0;"Press any ot
her key to continue"
16 IF INKEY$="m" THEN GO TO 20
00
17 IF INKEY$="M" THEN GO TO 20
00

```


Hope this is of help to you BASIC programmers that like to covert programs from other BASICS!

Conversion chart

This quick reference chart shows some of the variations in the BASIC used by the machines in this book. It does not include instructions for graphics, sound or colour as these vary so enormously from machine to machine. Note also that although most computers (except the BBC) use PEEK and POKE, they do not use the same system of memory addresses, so the numbers used with PEEK and POKE must be changed for each computer.

	BBC	VIC/Pet	Apple	TRS-80	ZX Spectrum	ZX81
Select random number between 0 and 0.99999999	RND(1)	RND(1)	RND(1)	RND(0)	RND	RND
Select random number between 1 and N	RND(N)	RND(1)*N+1	RND(1)*N+1	RND(N)	RND*N+1	RND*N+1
Select random letter between A and Z	CHR\$(RND(26)+64)	CHR\$(INT(RND(1)*26+65))	CHR\$(INT(RND(1)*26+65))	CHR\$(RND(26)+64)	CHR\$(INT(RND*26+65))	CHR\$(INT(RND*26+38))
Clear screen	CLS	PRINT CHR\$(147)	HOME	CLS	CLS	CLS
Check keyboard to see if key being pressed	INKEY\$(N)	GET X\$	X\$=" " IF PEEK(-16384) > 127 THEN GET X\$	INKEY\$	INKEY\$	INKEY\$
Convert characters into code numbers	ASC("X") (using ASCII code)	ASC("X") (using ASCII code)	ASC("X") (using ASCII code)	ASC("X") (using ASCII code)	CODE("X") (using ASCII code)	CODE("X") (using ZX81 code)
Move cursor up	PRINT CHR\$(11)	PRINT CHR\$(145)	CALL -998	PRINT CHR\$(27)	PRINT CHR\$(11)	PRINT CHR\$(112)
Move cursor down	PRINT CHR\$(10)	PRINT CHR\$(17)	PRINT CHR\$(10)	PRINT CHR\$(26)	PRINT CHR\$(10)	PRINT CHR\$(113)
Move cursor left	PRINT CHR\$(8)	PRINT CHR\$(157)	PRINT CHR\$(8)	PRINT CHR\$(24)	PRINT CHR\$(8)	PRINT CHR\$(114)
Move cursor right	PRINT CHR\$(9)	PRINT CHR\$(29)	PRINT CHR\$(21)	PRINT CHR\$(25)	PRINT CHR\$(9)	PRINT CHR\$(115)
Take 1st N characters of string	LEFT\$(A\$,N)	LEFT\$(A\$,N)	LEFT\$(A\$,N)	LEFT\$(A\$,N)	AS(1 TO N)	AS(1 TO N)
Take last N characters of string	RIGHT\$(A\$,N)	RIGHT\$(A\$,N)	RIGHT\$(A\$,N)	RIGHT\$(A\$,N)	AS(N TO)	AS(N TO)
Take middle N characters of string	MID\$(A\$,N1,N2)	MID\$(A\$,N1,N2)	MID\$(A\$,N1,N2)	MID\$(A\$,N1,N2)	AS(N1 TO N2)	AS(N1 TO N2)

Here are some good ideas from HARVEY PULLIAM. THANKS HARVEY!!!

L I T T L E B I T S
BY
Harvey

WARNING--Always turn power off before connecting or disconnecting any peripherals to your computer. Failure to do this may result in permanent damage to your unit.
(Idea source MITS, Inc. 1975 Altair 8800 Assembly Manual.)

Do not wear clothing which will build up static charges. Preferably wear clothing made of cotton rather than wool or synthetic fibers. (Idea source MITS, INC. 1975 Altair 8800 Assembly Manual.)

it is important, in starting, to first read the documentation and the User Manual.

W A R N I N G

UNDER NO CONDITIONS REMOVE OR INSTALL
ADDITIONAL UNITS WITH THE POWER ON!
(©MITS, INC. 1975)

Customer support and training costs can consume more than 20 percent of base revenues.

(Source: Battelle Memorial Institute, 4000 N.E. 41st st. Seattle, WA 98105.)

Do not use a new, white, handkerchiefs, once a week, with a good glass cleaner, to wipe off your TV or monitor's face unless you want to see the debris.

Have fun as Greg suggests; relax at least 10 minutes out of each hour; remember that if no one else loves you, the Almighty does-Amen.

This is from TOM SIMON. THANKS TOM!!!

SOFTWARE

ALL OF THE PROGRAMS I AM GOING TO MENTION ARE GAMES. THEY COME IN A VARIETY OF PRICES AND DIFFICULTY. SPY VS. SPY IS QUITE POPULAR ON THE COMODORE AND ATARI COMPUTERS AND IS NOW AVAILABLE FOR THE SPECTRUM. THE IMPLEMENTATION OF THE GAME FALLS SHORT AND DOES NOT SEEM VERY WELL DONE, HAVING LITTLE PATIENCE WITH DIFFICULT KEYBOARD CONTROLS I LOST INTEREST, QUICKLY. THE GRAPHICS ARE JUST ONE DEGREE ABOVE BEING BAD. I DON'T RECOMMEND THIS ONE. ONE WHICH I DID FIND A BIT BETTER WAS GHOSTBUSTERS, ALTHOUGH IT TOO IS NOT AS WELL IMPLEMENTED AS I WOULD LIKE AND SOMEWHAT SILLY, IT CAN HOLD YOUR ATTENTION FOR AT LEAST THE FIRST THREE TIMES. THE SPECTRUM BEEPING OUT THE RAY PARKER TUNE IS A BIT ANNOYING AND THE SPACE IN THE MEMORY COULD HAVE BEEN PUT TO A BETTER USE. THE GRAPHICS IN PART OF THE GAME WHERE YOU HAVE TO CATCH THE SLIMERS IS AGAIN A BIT ON THE PRIMITIVE SIDE, ALTHOUGH IN THE MAIN SCREEN THEY ARE FAIRLY GOOD. THE 'PLAY' IS NOT AS COMPLEX AS IT SEEMS AND SOME ENJOYMENT CAN BE GARNERED FROM THIS TITLE. GET IT IF YOU ARE A DIE HARD GHOSTBUSTERS FAN. A SURPRISINGLY GOOD GAME FROM MASTERTRONICS IS LOCOMOTION. A SIMPLE IDEA THAT IS WELL EXECUTED HERE. IT IS BASED UPON THOSE LITTLE POCKET PUZZLES WHERE THE SQUARES HAVE TO BE MOVED AROUND TO FORM A PICTURE OR A REBUS. WELL LOCOMOTION USES THE SAME IDEA FOR A TRAIN AND TRACKS WHICH IS ON A LONDON TO MADRID RACE. EACH STATION IS A BIT MORE DIFFICULT THAN THE PREVIOUS ONE. THE CONTROLS ARE UK JOYSTICKS OR THE CURSOR KEYS. AT A PRICE OF £2.50 IT IS ONE OF THE BEST VALUES FOR ENTERTAINMENT GOING. MY PARTICULAR FAVORITE IS GIFT FROM THE GODS (FROM OCEAN AT £8.95) WHICH IS SORT OF A GRAPHIC ADVENTURE. THE GRAPHICS ARE SUPERB AND THE ACTION IS NOT TERRIBLY FAST BUT ADDICTIVE. IN THE GAME YOU ARE ORESTES THE SON OF AGAMEMNON, WHO HAS TO AVENGE HIS FATHERS DEATH AND RESTORE PROSPERITY TO THE HOUSE OF ATREUS. HE IS HELPED BY HIS SISTER ELECTRA AND HINDERED BY CLYTEMNESTRA HIS EVIL MOTHER. HE MUST SOLVE A PUZZLE IN A LABYRINTH BENEATH THE PALACE TO ESCAPE THE MAZE, AND BATTLE HYDRAS AND OTHER MONSTERS. THE GAME IS QUITE DIFFICULT BECAUSE OF THE MAZE AND SOME MAY FIND IT FRUSTRATING. THIS IS A FINE EXAMPLE OF WHAT CAN BE DONE ON THE SPECTRUM OR THE 2068. A GOOD VALUE AND A GOOD CAUSE IS REPRESENTED BY THE GAMETAPE SOFTAID WHICH IS DONATING PROCEEDS TO THE UK BAND AID RELIEF FUND. IT HAS ABOUT 8 OR 9 GAMES ON A SINGLE TAPE. SUCH FAVORITES AS 3-D ANT ATTACK AND KOKOTONI WILF ARE WORTH THE PRICE OF THE TAPE. A GOOD IMPLEMENTATION OF A US PROGRAM FOR SPECTRUM IS BRUCE LEE. THIS PROGRAM SEEMS TO BE LOOSELY BASED ON HIS LAST UNFINISHED MOVIE THE GAME OF DEATH. AS BRUCE YOU HAVE TO FIGHT YOUR WAY THROUGH SEVEN LEVELS OF A SECRET TEMPLE, POPULATED WITH MARTIAL ARTS EXPERTS WHO RELENTLESSLY PURSUE YOU. THIS IS A VERY GOOD ARCADE TYPE GAME.

A GOOD SOURCE FOR GAMES, WHICH ARE NOT THE MOST RECENT AND AT A GOOD DISCOUNT IS PHILIPS & PHILIPS CO. LTD., SCRIPTOMATIC HOUSE, TORRINGTON PARK, FINCHLEY, LONDON, N12 9QU, TELEPHONE NO. 01-446-5648. THEY TAKE BARCLAYCARD AND ACCESS CREDIT CARDS.

KILSOFT SOFTWARE, 32 BRIARLYN AVE., BIRCHENCLIFFE, HUDDERSFIELD, TELEPHONE NO. 0484 31491 HAS A CATALOG OF EDUCATIONAL PROGRAMS FOR THE SPECTRUM. SOME OF THEIR TITLES ARE CHEMISTRY 1, CHEMICAL FORMULAE, PERIODIC TABLE, PHYSICS 1, PHYSICS 2, LENSES, AND MIRRORS, BIOLOGY 1, ASTRONOMY, WORD PROCESSING, GEOGRAPHY, BIRDS IN BRITAIN AND REALM (A HISTORY QUIZ ON 9 CENTURIES OF THE MONARCHY!). THEY DO NOT ACCEPT CREDIT CARDS BUT ACCEPT TRAVELERS' CHECKS.

TWO OF THE CURRENT GENERATION OF ENGLISH GAMES, ARE TECHNICALLY EXCELLENT ALTHOUGH IF ANY CRITICISM MUST BE MADE IT IS IN THE STYLE WHICH GAMES ARE MADE. THE FIRST, GLASS IS A GRAPHICALLY EXCELLENT SHOOT 'EM UP. IF YOU LIKE SHOOT 'EM UPS THEN THIS MAY BE WHAT YOU WANT. THERE ARE ALSO ELEMENTS OF 3-D DEATH CHASE, AND A TOUCH OF THAT WRY ENGLISH HUMOR. IF YOU DON'T LIKE THE ARCADE SHOOT 'EM UP STYLE THEN YOU WON'T LIKE THIS GAME DESPITE IT'S EXECUTION. THE SECOND IS DERIVATIVE FROM THE CULT MOVIE, THE ROCKY HORROR SHOW. THIS GAME IS GRAPHICALLY VERY GOOD AND SOMEWHAT INFLUENCED BY NUMEROUS PLATFORM TYPE GAMES, WITH PERHAPS A TOUCH OF ATIC ATAC THROWN IN. THESE ARE TYPICAL OF THE NEWER SPECTRUM GAMES WHICH HAVE IMPROVED MARKEDLY IN THEIR TECHNICAL EXECUTION AND HAVE ONLY TO HAVE A FRESH CONCEPT TO HAVE A REALLY OUTSTANDING PRODUCT.

RECENTLY I HAD THE OPPORTUNITY TO SEE ONE OF THE COMMERCIAL DISK DRIVES FOR THE 2068 IN OPERATION. THE MILLENNIA K IS SOLD BY RAMEX AND IS A QUAD DENSITY DRIVE. IT COMES WITH A POWER SUPPLY AND A DISK DRIVE WITH INTERFACE AND A DISK OF SEVERAL PROGRAMS INCLUDING TASWORD II. THE PRICE AROUND \$400; IT IS HOWEVER AN EXTREMELY FAST DRIVE AND A TYPICAL PROGRAM WOULD LOAD IN ONLY TWO OR THREE SECONDS. TASWORD WOULD LOAD INSTANTANEOUSLY. THE ONLY PROBLEM THAT I COULD SEE WAS THE FACT THAT THE OPERATING SYSTEM WAS LOCATED IN RAM AND USED ABOUT 5K. THIS WOULD NECESSITATE LOADING A LONG PROGRAM IN IN TWO PARTS THE FIRST UP TO THE OPERATING SYSTEM LOCATED IN HIGH MEMORY, THE REST OF THE PROGRAM INTO THE AREA RESERVED FOR THE LOADING SCREEN. A MACHINE CODE ROUTINE THEN MOVES THE REST OF THE PROGRAM TO ITS PROPER PLACE OVERWRITING THE OPERATING SYSTEM WHICH BOOTS UP WHEN NEEDED IN A FRACTION OF A SECOND. OVERALL WITH THE ADVENT OF MORE ADVANCED LOADING SYSTEMS THE MILLENNIA K SHOULD BE CONSIDERED AS A POWERFUL UPGRADE. RAMEX IS CONSIDERING RELEASING A VERSION OF THIS DRIVE WITH THE OPERATING SYSTEM ON AN EPROM.

LASTLY FROM THE FURTHER ADVENTURES OF SIR CLIVE IS THE STORY THAT HE HAS CONVINCED SOME BANKERS TO LOAN HIM 25 MILLION POUNDS TO REPURCHASE CONTROLLING INTEREST IN SINCLAIR RESEARCH. IT HAS BEEN ANNOUNCED THAT A 128 K SPECTRUM IS TO BE RELEASED SOON. IT WILL HAVE A BANK SWITCHED RAM, A SOUND CHIP AND JOYSTICK PORTS WITH A SPECTRUM PLUS KEYBOARD! SOUNDS SORT OF FAMILIAR!

PUBLICATIONS THAT HAVE A SIGNIFICANT INTEREST FOR SINCLAIR USERS ARE POPULAR COMPUTING WEEKLY AVAILABLE FOR £37.40 FOR AN AIRMAIL SUBSCRIPTION AND £19.95 FOR A SURFACE SUBSCRIPTION; WRITE PCW SUBSCRIPTIONS, 12-13 LITTLE NEWPORT ST., LONDON, WC2H 7PP, ENGLAND; AND ELECTRONICS AND COMPUTING IS A HARDWARE ORIENTED MAGAZINE AVAILABLE FROM ELECTRONICS AND COMPUTING MONTHLY, PRIORITY COURT, 38-32 FARRINDON LANE, LONDON EC1R 3AU, ENGLAND. WRITE TO SUBSCRIPTIONS FOR PRICES.



*** SPECIAL ***
MAILED MESSAGE!

All of you RAMTOP readers are experts in many computer fields. Please send in your articals so we can all share in your knowledge. Send to:

James G. DuPuy
6514 Bradley Ave. (DOWN)
Parma, Ohio 44129
PHONE: 216-661-4105

The TSU-BBS is ALIVE!!!!!!!!!!

SYSOP - Chris Raynak

PHONE - 1-327-1099

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